



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>6</sup> :

H04B 10/12, G02B 6/10

A1

(11) International Publication Number:

WO 00/45532

(43) International Publication Date:

3 August 2000 (03.08.00)

(21) International Application Number: PCT/AU99/00056

(22) International Filing Date: 28 January 1999 (28.01.99)

(71) Applicants (for all designated States except US): THE UNIVERSITY OF MELBOURNE [AU/AU]; Grattan Street, Parkville, VIC 3052 (AU). THE UNIVERSITY OF SYDNEY [AU/AU]; Parramatta Road, Sydney, NSW 2006 (AU). TELSTRA CORPORATION LIMITED [AU/AU]; 242 Exhibition Street, Melbourne, VIC 3000 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): GAN, Hongbing [CN/AU]; 5/635 Drummond Street, Carlton North, VIC 3054 (AU). LOWERY, Arthur, James [GB/AU]; 136 Derby Street, Kew, VIC 3101 (AU). LAUDER, Richard, David, Templeton [GB/AU]; 1/12 Fulham Road, Alphington, VIC 3078 (AU). SCEATS, Mark [AU/AU]; 74 Lamb Street, Lilyfield, NSW 2040 (AU).

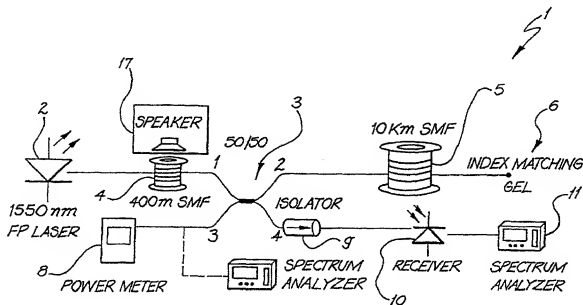
(74) Agent: GRIFFITH HACK; G.P.O. Box 4164, Sydney, NSW 2001 (AU).

(81) Designated States: AU, CA, JP, KR, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published

With international search report.

(54) Title: NOISE SUPPRESSION IN LIGHTWAVE COMMUNICATION SYSTEMS



## (57) Abstract

An optical communications system comprising: a laser source; an optical waveguide interconnected to the laser source to carry optical signal from the source to an optical receiver; an optical receiver interconnected to the optical waveguide for decoding the signal; a mechanical modulator adapted to substantially continuously mechanically perturb a portion of the optical waveguide so as to reduce Rayleigh backscattering from the optical waveguide.